

United States Of America  
Department of Transportation - Federal Aviation Administration  
**Supplemental Type Certificate**

*Number* ST02434LA

*This Certificate issued to* Aeronautical Engineers, Inc.  
7765 N.W. 54<sup>th</sup> Street  
Miami, Florida 33166

*certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 25\* of the Federal Aviation Regulations. \* (for certification basis see Continuation Sheet 1 and 2)*

*Original Product Type Certificate Number:* A6WE

*Make:* Boeing

*Model:* DC-9-81, DC-9-82, DC-9-83 and MD-88

*Description of Type Design Change:* Installation of a Main Deck Cargo Door in accordance with Cargo Door Drawing List for the MD-80 Aircraft R-831, rev F, dated 8/21/12. Installation of a Class E cargo compartment in accordance with Cargo Modification Drawing List for the MD-80 Aircraft R-832, Rev D, dated 8/13/12, or later FAA approved revisions, and Weight & Balance Aeronautical Engineers Inc. MD-80 Freighter Conversion, Report No. 2878, Revision A, dated 11/5/2012 or later approved revisions of the above. (see Continuation Sheet 1 for further description)

*Limitations and Conditions:* The installations of both an FAA approved main deck cargo barrier and a cargo handling system which have been approved to be compatible with this STC are required. The approval of this modification applies to the above noted airplane model series only. The installer must determine whether this design change is compatible with previously approved modifications. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

*This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.*

*Date of application:* March 31, 2010

*Date reissued:*

*Date of issuance:* February 8, 2013

*Date amended:*



*By direction of the Administrator*

(Signature)

Manager, Airframe Branch  
Los Angeles Aircraft Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

INSTRUCTIONS: The transfer endorsement below may be used to notify the appropriate FAA Regional Office of the transfer of this Supplemental type certificate.

The FAA will reissue the certificate in the name of the transferee and forward it to him.

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### TRANSFER ENDORSEMENT

Transfer the ownership of the Supplemental Type Certificate Number \_\_\_\_\_

to *(Name of transferee)* \_\_\_\_\_

*(Address of transfer)* \_\_\_\_\_  
*(Number and street)*

\_\_\_\_\_ *(City, State, and Zip code)*

from *(Name of grantor) (Print or type)* \_\_\_\_\_

*(Address of grantor)* \_\_\_\_\_  
*(Number and street)*

\_\_\_\_\_ *(City, State, and Zip code)*

Extent of Authority (if licensing agreement): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date of Transfer: \_\_\_\_\_

Signature of grantor *(In ink)*: \_\_\_\_\_

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# Supplemental Type Certificate

Number ST02434LA

Continuation Sheet 1

Latest issuing date: February 8, 2013

*Description of Type Design Change: (continued):*

Maintain in accordance with the following or later approved revisions: AEI MD-80 Freighter Maintenance Manual, Report R-853-MM, Rev IR, dated 11/9/12, and Supplement to McDonnell Douglas Document No. L-26-022, Supplement No. SIE-367-601, Rev. IR, dated 10/17/12

Operate in accordance with the following or later FAA approved revisions: FAA Approved Airplane Flight Manual Supplement for the McDonnell Douglas DC 81, DC 9-82, DC 9-83, MD-88 Series When Equipped With Cargo Door and Class "E" Cargo Compartment Installation, Report no. R-847, Rev. Orig., dated 11/5/2012, and Weight and Balance Manual Supplement to Douglas Aircraft Company Weight And Balance Manual MDC-J8358 (or equivalent) For MD-80 Series Aircraft , Report No. R-846, Rev. A, dated 11/14/2012

*Certification Basis:* Based on the application date of March 31,2010 and under the provisions of § 21.101, the applicable type certification standards for the Models DC-9-81, -82, -83, MD-88 are as follows:

- a. Airworthiness & Environmental Standards for components and areas not affected by the change are the original certification basis for the Models DC-9-81, -82, -83, MD-88 as shown on TCDS A6WE, Revision 27.
- b. Airworthiness and Environmental Standards for components and areas affected by the change, in accordance with the provisions of §§ 21.101 and 21.115, are the rules in affect at the time of STC application, and including prior amendment levels and exemptions as follows:

14 CFR part 25 including Amendment 25-1 through amendment 25-129, except for the following sections which are limited to showing compliance with the amendments indicated:

<u>Section</u>	<u>Amendment</u>	<u>Subject</u>
25.305(d)	25-23	Strength and Deformation
25.321	25-23	General
25.331	25-23	Symmetric Maneuver
25.333	25-0	Flight Maneuver envelope
25.335	25-23	Design Dive speed
25.341	25-0	Gust Loads
25.345	25-0	High Lift Devices
25.351	25-23	Yaw Maneuver
25.365	25-54	Pressurized compartments
25.373	25-0	Speed Control Devices
25.473	25-23	Ground load conditions and assumptions
25.479	25-23	Level landing conditions
25.481	25-0	Tail down landing conditions
25.483	25-0	One-wheel landing conditions
25.485	25-0	Side load conditions
25.491	25-0	Taxi, take-off
25.493	25-23	Braked roll conditions.
25.499	25-23	Nose wheel Yaw
25.561	25-23	Emergency Landing
25.831	25-0	Ventilation

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# Supplemental Type Certificate

Number ST02434LA

Continuation Sheet 2

Latest issuing date: February 8, 2013

Exemptions: To allow type certification with provisions for the carriage of supernumeraries.

- a) § 25.785(j) Firm hand hold requirement – Amendment 25-88 An exemption has been granted from the requirement of handholds to enable passengers to steady themselves when moving about the cabin, in the event the airplane encounters moderately rough air.
- b) § 25.812(e) Emergency lighting – Amendment 25-116 An exemption has been granted from the requirement for floor-proximity, emergency escape-path markings must provide emergency-evacuation guidance for passengers.
- c) § 25.813(b) Emergency exit assist space- Amendment 25-88 An exemption has been granted from the requirement that each emergency exit addressed by § 25.810(a) have adjacent assist space.
- d) § 25.855(a) Cargo Compartments - Amendment 25-116 An exemption has been granted from the requirement that cargo compartments must meet one of the class requirements of § 25.857.
- e) § 25.857(e) Permit carriage of six (6) supernumeraries- Amendment 25-93. An exemption has been granted to permit carriage of six non-crew persons, in addition to the two flight crewmembers and one observer, on an all-freighter airplane which has a class E cargo compartment.
- f) § 25.1447(c)(1) Non self-presenting oxygen dispensing units - Amendment 25-116 An exemption has been granted to allow usage of non self-presenting oxygen dispensing units in the supernumerary compartment.

14 CFR part 26: including Amendment 26-1 through amendment 26-4, except for the following: In lieu of showing compliance to § 26.11 EWIS maintenance program, the equivalent requirements with the EWIS provision of part 25 Subpart H as follows:

<u>Section</u>	<u>Amendment</u>	<u>Subject</u>
25.1701	25-123	Definition: EWIS
25.1703	25-123	Function & Install EWIS
25.1705	25-123	System and functions: EWIS
25.1707	25-123	System Separation EWIS
25.1709	25-123	System safety: EWIS
25.1711	25-123	Components ID EWIS
25.1713(a)(c)	25-123	Fire Protection: EWIS
25.1715(a)	25-123	Electrical bonding and protection against static electricity: EWIS
25.1717	25-123	Circuit protective devices: EWIS
25.1719	25-123	Accessibility provisions: EWIS
25.1721	25-123	Protection EWIS
25.1729	25-123	Instructions for Continued Airworthiness: EWIS
25.1733	25-123	Fire Detector systems: EWIS

Note: This modification has been determined to be a "no acoustical" change as defined by 14 CFR 21.93(b).

END